## REMARKS

The Office Action mailed October 4, 2010 has been reviewed and carefully considered.  No new matter has been added.

Claims 1 and 10 have been amended.  Claims 1-11 are pending.

Claims 1, 4, and 7-11 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,118,498 to Reitmeier (hereinafter "Reitmeier").  Claims 2 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Reitmeier in view of U.S. Patent No. 7,143,432 to Brooks (hereinafter "Brooks").  Claim 6 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeier in view of well-known prior art.

Initially, for purposes of coordination of examination, Applicants wish to bring to the Examiner's attention the fact that applications are currently undergoing examination that have related subject matter.  One application is U.S. Application No. 10/560,477 entitled "Encoding Method and Apparatus Enabling Fast Channel Change of Compressed Video", which has claims generally directed to the encoding method and apparatus.  Another application is U.S. Application No. 10/559,643 entitled "Decoding Method and Apparatus Enabling Fast Channel Change of Compressed Video", which has claims generally directed to the encoding method and apparatus. Both are assigned to Examiner James A. Thompson in Art Unit 2625, and both currently have an office action outstanding.

Claims 1 and 10 are the independent claims in the instant application.

It is respectfully asserted that none of the cited references, either taken singly or in combination, teach or suggest the following limitations of amended Claim 1:


        1.     A video decoder for receiving compressed stream data and providing decompressed video output, the decoder comprising:

        a demultiplexor for receiving the compressed stream data and separating a normal stream and a channel change stream there from, the normal stream and the channel change stream each being generated external to the video decoder and comprising a plurality of pictures for a same program;

a normal decoding portion in direct signal communication with the

demultiplexor for selectably receiving at least one of the compressed normal and

channel change streams, and providing decompressed video output; and

at least one normal frame store in signal communication with the normal

decoding portion for storing reference pictures for use in decoding inter-coded

pictures.

Moreover, it is respectfully asserted that none of the cited references, either taken singly or

in combination, teach or suggest the following limitations of amended Claim 10:

10.      In a video decoder, a video decoding method for receiving

compressed stream data and providing decompressed video output, the method

comprising:

receiving the compressed stream data and separating a normal stream and

a channel change stream there from, the normal stream and the channel change

stream each being generated external to the video decoder and comprising a

plurality of pictures for a same program;

receiving at least one of the compressed normal and channel change

streams, and providing decompressed video output; and

storing reference pictures for use in decoding inter-coded pictures.

As noted above, each of Claims 1 and 10 have been amended.  Support for the amendments

to Claims 1 and 10 may be found at least at page 5, lines 16-19 and page 8, lines 13-17 of the instant

application.

Initially, we note that as per MPEP 2111.02(I), "[a]ny terminology in the preamble that

limits the structure of the claimed invention must be treated as a claim limitation".  We further note

that Claim 1 is explicitly directed to a video decoder, and Claim 10 is explicitly directed to a method

in a video decoder.  In contrast, Reitmeier includes only three figures, where the first figure (Figure

1) is of a receiver, and the second and third figures are flowcharts.  While Figure 1 of Reitmeier

shows an main transport demux (35) and an aux demux and process (30), none of the demuxes (35)

and (30) are comprised within a decoder, but rather are external to the decoder (45) shown in Figure 1 of Reitmeier.

In fact, neither demux (35) nor demux (30) are even directly connected to the decoder (45), let alone directly connected (i.e., "in **direct** signal communication") and comprised therein as essentially explicitly recited in Claims 1 and 10.

Moreover, while Figure 1 of Reitmeier shows a switch (20) and another switch (40), such switches (20) and (40) are not part of the decoder (45), but rather are also external to the decoder (45) just like the demuxes (35) and (30).  While the Examiner has acknowledged the existence of the switch (e.g., element 40), the Examiner has wrongly stated that "the demultiplexor (35) is in direct signal communication with the decoder (45) since the only operation a switch performs is deciding which one of the demultiplexors [(30) or (35)] is to be in direct signal communication with the decoder" (Office Action, p. 3).  The Examiner's understanding of the connections in Figure 1 of Reitmeier fails to realize the obvious, that the switch is nonetheless a physical device that is intermediately connected between the demux 30 (or demux 35) and the decoder 45 and, thus, none of the demuxes 30 or 35 can ever be in direct signal communication with the decoder, in direct contrast to the explicit limitations of Claim 1.

Hence, any signal selection and/or separation (e.g., such as "separating the normal stream and the channel change stream" as recited in Claims 1 and 10) is performed external to the decoder (45) directly contrary to the explicit limitations recited in each of Claims 1 and 10, as is clearly evident from even a cursory review of Figure 1 of Reitmeier.

We note that throughout the disclosure of Reitmeier, Figure 1 thereof is described as a receiver (see, e.g., Reitmeier, col. 2, lines 44-45, col. 2, lines 63-64, col. 2, line 67 to col. 3, line 3, and col. 7, line 66 to col. 8, line 1).  However, as is known to those of ordinary skill in the art, a receiver is NOT a decoder, nor does a receiver require a decoder.  For example, a receiver in a DLSAM between a source of data (e.g., a content provider) and an STB may include a receiver to receive signals from the data source, but never needs to decode the signals that it receives, as it only re-transmits the signals downstream to the STB.  Thus, as is readily evident, a receiver is not a decoder.  Hence, Reitmeier fails to teach or suggest "a demultiplexor for receiving the compressed stream data and separating the normal stream and the channel change stream" as recited in Claim 1, and "receiving the compressed stream data and separating the normal stream and the channel

change stream", let alone that those elements are comprised within in a video decoder as recited in Claim 1 and that those steps are performed by a video decoder as recited in Claim 10, instead directly teaching away from the same.

Further, while the demux in Claim 1 and the first step in Claim 10 receives the compressed stream data and separates the normal stream and the channel change stream there from, where both the normal and channel change streams are generated external to the video decoder and both include a plurality of pictures, Reitmeier stores a single I-frame for a particular stream in a memory 34 that is also disposed external to the decoder 45 of Reitmeier, in direct contrast to the explicit limitations recited in Claims 1 and 10. That is, while Claims 1 and 10 involve storing in a video decoder, Reitmeier teaches storing in a memory device 34 located outside of a decoder. Moreover, while Claims 1 and 10 involve storing a channel change stream that comprises a plurality of pictures, the I-frame that the Examiner has equated to the channel change stream is just that, a single I-frame, in direct contrast to the explicit limitations of Claims 1 and 10. Additionally, while the channel change stream recited in Claims 1 and 10 is generated external to the video decoder (and, hence, external to the multiplexor comprised in the video decoder of Claim 1 and with respect to the receiving and separating step of Claim 10), the I-frame in Reitmeier is parsed from a video elementary stream in the demux 30 (Reitmeier, col. 5, lines 37-48) in direct contrast to the explicit limitations of Claims 1 and 10.

Also, noting again that Claim 1 is explicitly directed to a video decoder, and Claim 10 is explicitly directed to a method in a video decoder, we further note that Claim 1 explicitly recites, *inter alia*, "at least one normal frame store in signal communication with the normal decoding portion for storing reference pictures for use in decoding inter-coded pictures" and Claim 10 explicitly recites, *inter alia*, "storing reference pictures for use in decoding inter-coded pictures". However, in direct contrast to the preceding explicit limitations of Claims 1 and 10, Reitmeier discloses, as cited by the Examiner, a memory (34) external to the decoder (45) shown in Figure 1 of Reitmeier. Hence, in that regard alone (i.e.., that the memory (34) is external to the decoder and not comprised within a decoder), Reitmeier fails to teach or suggest the preceding limitations of Claims 1 and 10, instead directly teaching away from the same. Moreover, we note that the disclosed purpose of memory 34 in Figure 1 of Reitmeier is not for decoding as explicitly recited in Claims 1 and 10, but rather for channel scanning (see, e.g., Reitmeier, col. 5, lines 37-60). In fact,

according to the disclosure in Reitmeier relating to the memory (34), the following is disclosed: "Each time an I-frame is identified, the identified I-frame is stored in a location in memory 34 associated with the particular program stream.  Thus, the memory location is constantly over-written with a new I-frame each time a new I-frame is identified" (Reitmeier, col. 5, lines 43-47).  Hence, in this regard, it is clear that the memory (34) disclosed in Reitmeier is not for storing reference pictures for use in decoding inter-coded pictures, but rather for scanning channels, noting that the last sentence in the cited paragraph of Reitmeier even explicitly discloses such purpose as does the whole paragraph including the first introductory sentence of the same.

Moreover, we note that given the disconnect regarding the connections between the memory (34) and the decoder (45) in Reitmeier, such memory (34) could not be used for decoding inter-coded pictures (but only for decoding the single stored I-frame) as the access of the decoder to the frames stored therein for decoding purposes as reference frames seems to be completely lacking in Reitmeier.  For example, the direction of data flow from (the demux (30) that includes) the memory (34) towards the decoder (45), noting that the two (memory and decoder) are not even directly connected together, is simply one-way and, hence, the decoder (45) would not be able to access or know which is the current reference frame stored in the memory (34) at the time such reference picture would be needed to decode another picture as there is no feedback loop from the decoder (45) to the memory (34), for example, to identify the current frame and/or to cause its' <u>timely</u> retrieval, notwithstanding the fact that only one I-frame appears to be stored therein at any given time.

Moreover, while subsequent data for the same program as the I-frame may be decoded later, given the time lapse from the parsing and storing of the I-frame from the corresponding video elementary stream to the time that the I-frame is referred to by a channel change for a corresponding channel and the even later time that the subsequent data is made available to the decoder, a next group of pictures would likely already be current for decoding, rendering what amounts to a stale I-frame (for a previously current GOP) that would not be able to used as a reference frame for (inter) pictures in the next group of pictures.  This is particularly so since the desired channel must be **re-acquired** by tuning, demodulating, and demultiplexing operations (Reitmeier, Abstract) (emphasis added).  Such staleness is not an issue in the invention of Claims 1 and 10, where both a normal stream and a channel change stream are concurrently received (via the compressed stream).

Hence, in all these regards, Reitmeier fails to teach or suggest all the above reproduced limitations of Claims 1 and 10.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP §2131, citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).  Moreover, regarding a rejection under 35 U.S.C. 102, "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).  The elements must be arranged as required by the claim ... (MPEP §2131 citing *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990)).

Moreover, we note that the remaining references do not cure the deficiencies of Reitmeier, and are silent regarding the same.

The failure of an asserted combination to teach or suggest each and every feature of a claim remains fatal to an obviousness rejection under 35 U.S.C. § 103.  Section 2143.03 of the MPEP requires the "consideration" of every claim feature in an obviousness determination. To render a claim unpatentable, however, the Office must do more than merely "consider" each and every feature for this claim. Instead, the asserted combination of the patents must also teach or suggest *each and every claim feature. See In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) (emphasis added) (to establish *prima facie* obviousness of a claimed invention, all the claim features must be taught or suggested by the prior art).  Indeed, as the Board of Patent Appeal and Interferences has recently confirmed, a proper obviousness determination requires that an Examiner make "a searching comparison of the claimed invention - *including all its limitations* - with the teaching of the prior art." *See In re Wada and Murph*y, Appeal 2007-3733, *citing In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995) (emphasis in original).  "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious" (MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)).

Hence, Claims 1 and 10 are patentably distinct and non-obvious over the cited references for at least the preceding reasons.

Claims 2-9 directly or indirectly depend from Claim 1 and, thus, includes all the elements of Claim 1.  Claim 11 directly or indirectly depends from Claim 10 and, thus, includes all the elements of Claim 10.  Accordingly, Claims 2-9 and 11 are patentably distinct and non-obvious over the cited references for at least the reasons set forth above with respect to Claims 1 and 10, respectively.

Moreover, said dependent claims include patentable subject matter in and of themselves and are, thus, patentable distinct and non-obvious over the cited references in their own right.  For example, none of the cited references teach or suggest the following limitations recited in Claim 3: "further comprising a postprocessing filter in signal communication with the normal decoding portion for postprocessing decompressed video data and selectably outputting said data to at least the at least one normal frame store."  For example, regarding Claim 1 from which Claim 3 depends, the Examiner has cited memory (34) of Figure 1 of Reitmeier as relating to the "at least one normal frame store".  THE SAME MEMORY IS RECITED IN BOTH CLAIMS 1 AND 3.  Hence, if the Examiner is citing memory (34) against Claim 1, the same memory must be implicated for Claim 3 in fairness to what is actually recited in the claims, namely the same memory.  However, memory (34) is disposed prior to the decoder (45) from a data flow point of view and, hence, does not relate to "postprocessing", let alone a "postprocessing filter" as recited in Claim 6.  Moreover, we note that while a display frame buffer (55) is shown in Figure 1 of Reitmeier, the same is not memory (34) and hence is at odds with the Examiner's prior position regarding element (34) in Figure 1 of Reitmeier relating to the at least one normal frame store recited in Claim 1 since the "at least one normal frame store" recited in Claims 1 and 6 is the same element.  Additionally, neither the aux video decoder (58) or the display frame buffer (55) contained in the format converter (50) shown in Figure 1 of Reitmeier selectively output data, as the same only output the particular signal that is input thereto without any selection, as the aux video decoder (58) and the display frame buffer (50) lack the means to select.  Thus, Claim 3 is patentably distinct and non-obvious over the cited references for at least the reasons set forth above regarding Claim 1, as well as in its own right for the preceding reasons.

Moreover, it is respectfully asserted that none of the cited references teach or suggest the following limitations recited in Claim 5: "further comprising means for upsampling lower resolution channel change stream pictures".  For example, Reitmeier is completely silent regarding the same, warranting the Examiner to rely upon Brooks for teaching the same.

However, Reitmeier discloses that "[t]he full or partially decoded auxiliary stream is then reformatted using, e.g., a subsampling operation to reduce the amount of video information (i.e., reduce the size of a resulting image)" (Reitmeier, col. 5, lines 28-30).  Such subsampling relates to PIP, to which also relates to the "resize and compress" element (32) also shown in Figure 1. Hence, it is quite clear that Reitmeier teaches away from the explicit limitations recited in Claim 5.  Thus, in view of this teaching away by Reitmeier, a combination involving Reitmeier and any other reference teaching upsampling is an improper combination under at least MPEP 2143.01.

For example, as disclosed in MPEP §2143.01:

If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959) (Claims were directed to an oil seal comprising a bore engaging portion with outwardly biased resilient spring fingers inserted in a resilient sealing member. The primary reference relied upon in a rejection based on a combination of references disclosed an oil seal wherein the bore engaging portion was reinforced by a cylindrical sheet metal casing. Patentee taught the device required rigidity for operation, whereas the claimed invention required resiliency. The court reversed the rejection holding the "suggested combination of references would require a substantial reconstruction and redesign of the elements shown in [the primary reference] as well as a change in the basic principle under which the [primary reference] construction was designed to operate." 270 F.2d at 813, 123 USPQ at 352.).

In this case, since Reitmeier discloses subsampling, a combination involving Reitmeier and Brooks in order to have the invention of Reitmeier perform upsampling would change the principle of operation of Reitmeier, which is prohibited under MPEP 2143.01.  Hence, for at least the preceding reasons, the rejection of Claim 5 under the cited references should be withdrawn.  In any event, none of the cited references teach or suggest the above reproduced

limitations of Claim 5 for at least the reasons set forth regarding Claim 1 from which Claim 5 depends.

Thus, in view of the preceding, reconsideration of the rejections is respectfully requested.

In view of the foregoing, Applicants respectfully request that the rejection of the claims set forth in the Office Action of October 4, 2010 be withdrawn, that pending claims 1-11 be allowed, and that the case proceed to early issuance of Letters Patent in due course.

The fee of $810 required by 37 C.F.R. §1.17(e) for the filing of a Request for Continued Examination (RCE) under 37 C.F.R. §1.114 is authorized. It is believed that no further additional fees or charges are currently due. However, in the event that any additional fees or charges are required at this time in connection with the application, they may be charged to applicants' Deposit Account No. 07-0832.

Respectfully submitted,

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